Variation and Meaning of Easter Island Ahu

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Introduction

Studies of *ahu* on Easter Island started more than a hundred years ago and a major scientific contribution was provided by the Norwegian Archaeological Expedition in 1955-56.

The isolated location of Easter Island on the outskirts of the Polynesian realm and the numerous archaeological remains makes its prehistory interesting to study, particularly aspects concerning origin and change.

The *ahu* structures are the most well preserved prehistoric remains on the Island, and in some ways they resemble other ceremonial structures in the rest of Polynesia. The Polynesian connection is also noted in the language, in other material remains, in the religion, and in the social organization. Some ranked differences between Easter Island and the rest of Polynesia however occur. These differences have been explained by some researchers as due to internal development depending on differences in the natural resources, and different historical choices (Mulloy and Figueroa 1978, McCoy 1976, Ayres 1973, Eddowes 1991). Other researchers have suggested that it is due to other cultural influences and migrations from other cultural areas, mainly the South American mainland (Heyerdahl 1961, 1952, 1989). In my study I have tried to make an effort to widen the frames of reference, to be able to reach a contextual understanding of the monuments.

My starting-point is to view the source material presented by different researchers in a critical way. The intention is to examine earlier results as well as trying to reach an understanding of their theoretical base. Furthermore it has been vital to reflect on my own theoretical base. In doing so, I have come to realize that it is difficult for the researcher to be an outside objective observer, but the scientist plays an active part in the scientific process. It is, therefore, important to try to be conscious of, and responsible for, the view of the past that one presents.

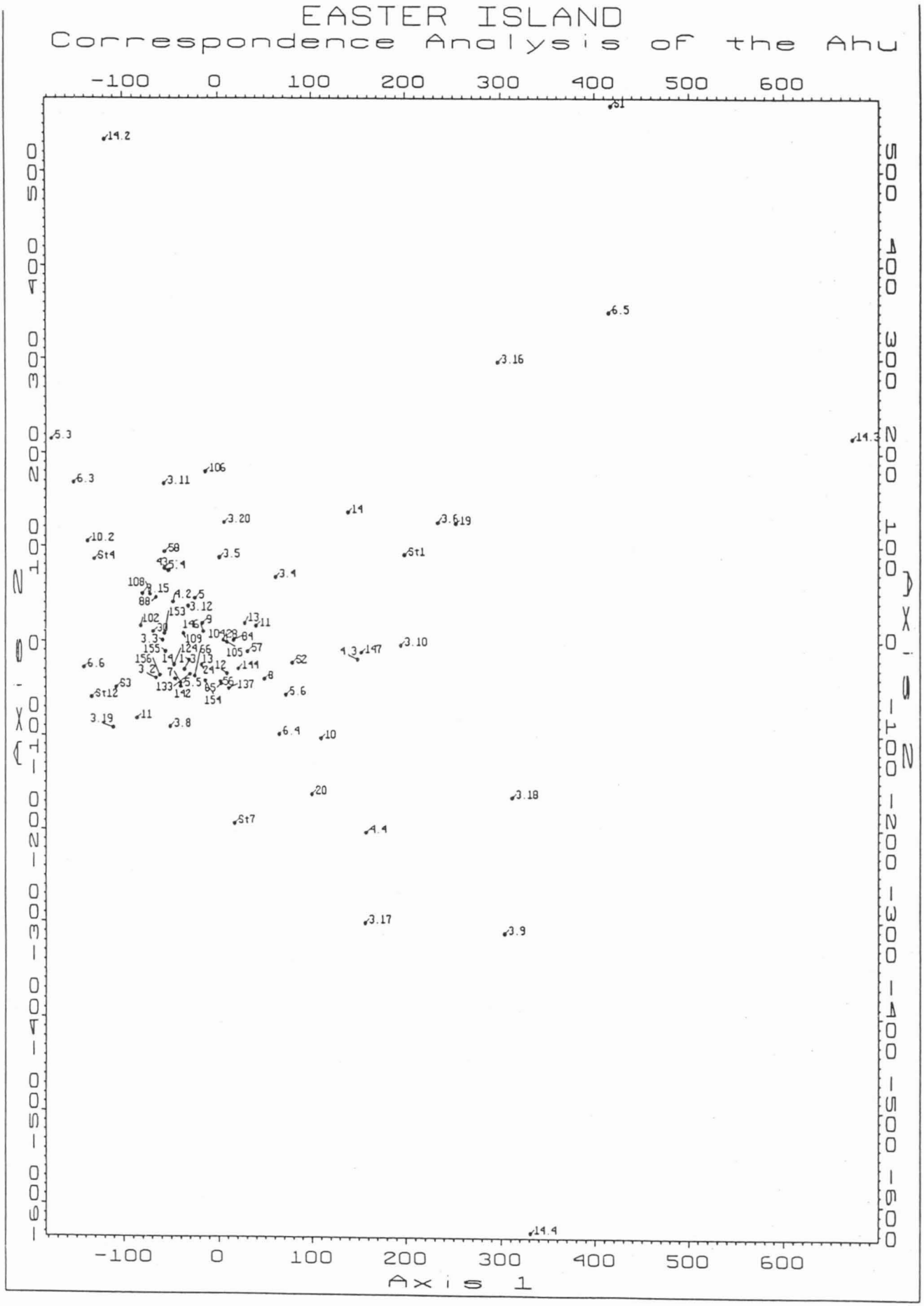
My theoretical supposition is that all material culture is meaningful within its context and thus, the appearance and usage of the material culture result from meaningful productions. Furthermore, I consider that meaningful productions are more easily distinguishable in some material remains as, for example, concerning religious and ceremonial structures, than among other more secularized remains. Another supposition is that the individual parts of the material culture are to be understood in relation to one another. The structure and development of society can then be seen as an interrelating network, which may have different meanings for different individuals and not as processes where the society develops in a certain direction. This implies a structuralistic way of thinking, but one that also consider time and space as important factors.

In my opinion a possible way to reach an understanding of the meanings of the material culture is to investigate its variation and change.

Analyses of *ahu* variations

During the investigations concerning *ahu* structures I have found information on about 308 *ahu,* and 164 of these are considered to be so called "image *ahu*" (Englert 1974, Mulloy 1961, 1970, 1973, Mulloy and Figueroa 1978, Ayres 1973, McCoy 1976, Smith 1961, Campbell 1987, Cristino et al. 1980, 1981, Cristino 1986, Stevenson 1984, VanTilburg 1986). To investigate variations and change of the *ahu* structures a construction analysis was performed on the 164 image *ahu.* To carry out this analysis, the structures were divided into 112 different variables that belonged to 20 variable groups. In performing the construction analyses both descriptive statistics (cross tabulation with chi-2 test), and a multivariate correspondence analysis were used (Martinsson-Wallin 1993). One advantage of the correspondence analysis is that a large number of data are reduced to four mathematically based axes without loosing any important information. The relationships between different variables, those between variables and *ahu* and those between different *ahu* are then able to be shown in one single graph (Shennan 1988: 283-286, Bolviken 1982). The analysis is thereby as contextual as possible. The results of the correspondence analysis show that image *ahu* generally form a homogenous group (Figure. 1). One central cluster is shown which probably represents the typical or classical appearance of *ahu.* The variables outside the cluster may be due to variations in time, space or function (social variations).

In exploring if the variations are temporal, a serration is presented (Table 1). The serration is accomplished by using the ranked first axis of the correspondence analysis. However one has to be careful not to create a too rigid chronological frame, and both social and spatial relationships might also be indicated by this pattern. The serration suggests that well dressed stones in the rear wall of the platform (3.2) seems to be an early trait and unworked stones (3.5) late. Furthermore, the rear wall seems to have changed from consisting of vertically placed blocks (3.8) to horizontally placed blocks (3.9, 3.10). Concerning the front wall the well dressed appearance (3.15) seems to be an early trait, and unworked stones (3.18) are a late trait. The platform seems to have been projecting towards the sea (4.2) in the earliest time and gradually changed to end up as a platform pulled back from the sea (4.4). The flat stone pavement in front of the platform (5.4) seems to be an archaic trait, which through an itermediate stepped appearance (5.5) changed to an inclined ramp (5.6). In the beginning there are no indications of statues on the platform (10.2), but the absence of statues is however ambiguous because there are indications that small statues of Rano Raraku stone and statues of other material may have occurred during early times, but maybe not placed on the platform. A clear trend is however that late structures have only one statue (St. 1). The size of the *ahu* has changed from large (S 3), to medium (S 2), to small (S 1), and the coastal


EASTER ISLAND
Correspondence Analysis of the Ahu
-100
0
100
200
300
400
500
600
Axis 1
Axis 2
St1
St4
St7
St12
14.2
14.3
14.4
6.5
3.16
5.3
6.3
3.11
106
3.20
14
3.6
19
10.2
58
3.5
3.4
108
15
88
1.2
5
3.12
153
102
30
146
9
13
11
3.3
109
104
128
84
155
124
66
105
57
3.10
147
6.6
156
14
1
53
13
52
3.2
7
12
111
63
133
15.5
85
56
137
8
142
154
5.6
3.19
11
3.8
6.9
10
20
3.18
4.1
3.17
3.9

ocation (14.1, 14.2) is an early trait and the inland location

Figure 1. Correspondence analysis of *ahu* and variables; 5. Tautira, 8. Vai Uru, 9. Tahai 1, 10. Tahai 11, 11. Ko te Riku, 13. Hanga Kio'e 1, 14. Hanga Kio'e 2, 19. Vaiteka, 20. Akivi, 24. Tepeu, 28. Maitaki te Moa, 30. Vai Mata 1+2, 43. Motu kau, 56. Nau Nau 111, 57. Ature Huki, 58. Runga, 65. Te Pito te Kura, 66. Hekii 1, 84. Hanga Tau vake, 88. Mahatua, 102. One Makiki 104. Te Ihu, 105. Koe Hoko, 106. Moai Tuu Tahi, 108. Hanga Tetenga, 109. Runga Va'e, 124. Ure Uranga te Mahina, 133. Hanga Tee, 137. Tarakiu, 142. Hanga Poukura, 144. O Ure, 146. Hanga Hahave, 147. Huri a Urenga, 153. Vinapu 1 fas 1, 154. Vinapu 1 fas II, 155. Vinapu 2 fas 1, 156. Vinapu 2 fas 11.

Sl=small size, S2=middle size, S3=large size, 3.2=well dressed rear wall, 3.3= worked rear wall, 3.4= partly worked rear wall, 3.5= non-worked rear wall, 3.6= natural rock, 3.8= Rear wall of one layer of stones, vertical, 3.9= Rear wall of one layer of stones, horizontal 3.10= Rear wall of two layers of stone, horizontal, 3.11= Rear wall of two layers of stone, vertical and horizontal, 3.12= Rear wall of three layers of stone, horizontal, 3.13= Rear wall of three layers of stone, vertical and horizontal, 3.15= well dressed front wall, 3.16= dressed or partly dressed front wall in one layer, 3.17= dressed or partly dressed front wall in two layers or more, 3.18= Undressed front wall 3.19= Front wall with coping of red lava stone, 3.20= No front wall, 4.2= Platform projecting to the sea, 4.3= Platform parallel to the rest of the structure, 4.4= Platform pulled back from the sea, 5.3= Uncertain construction of ramp, 5.4= Horizontal paving, 5.5= stepped ramp, 5.6= Inclined ramp, 6.3= Uncertain appearance of ramp, 6.4= Ramp paved with *poro* stones, 6.5= Ramp paved with flat stones, 6.6= Ramp not paved, 7= Presence of wings, 10.2= Absence of statues, St. 1= One statue, St. 4= Two to four statues, St. 7= Five to seven statues, St. 12= Eight to twelve statues, I I= Presence of *pukao*, 12= Presence of crematory, 14.1= Ahu located 0-500 m from the sea, 14.2= Ahu located 501-1000 m from the sea, 14.3= Ahu located 1001-2000 m from the sea, 14.4= Ahu located more than 2000 m from the sea.

Variables	Ranked axis 1	14.1	-31
14.3	672	3.12	-32
S1	417	3.13	-36
6.5	415	5.5	-40
14.4	331	7.3-7.7	-40
3.18	312	4.2	-48
3.9	304	3.8	-51
3.16	297	5.4	-57
3.6	234	3.11	-58
St. 1	199	3.3	-59
3.10	195	3.2	-66
404	158	3.15	-80
3.17	157	11.3-11.4	-86
4.3	149	S 3	-108
S 2	79	3.19	-111
5.6	72	14.2	-119
6.4	65	St. 4	-131
3.4	61	St. 12	-134
St. 7	17	10.2	-138
12.3-12.4	9	6.6	-142
3.20	6	6.3	-153
3.5	1	5.3	-177

Table 1. Seriation of variables based on the first ranked axis of the correspondence analysis. Negative values are early and positive values are late. The variables are the same as in Figure 1.

(14.3, 14. 4) is late.

The C-14 dating of *ahu* Tahai I and *ahu* Vinapu 2 have been The C-14 dating of *ahu* Tahai I and *ahu* Vinapu 2 have been submitted to a closer examination and it is suggested that they may indicate settlement dates instead of dating the *ahu* structures. This especially pertains to *ahu* Vinapu 2, where the sample that indicated an early date of B.P. 1100±200 (A.D. 751-1144, calibrated with the aid of the calibration program CahbETH) was taken under the wall surrounding the plaza and not in close association with the stone structure. The early dating from *ahu* Tahai I, B.P. 1260±130 (calibrated A.D. 685-933) is indicated by a sample taken in close association with the construction. This sample indicates the so far earliest *ahu* date on the island, but as long as there exists only one such early *ahu* date, it must be considered as ambiguous for asserting the initial date of *ahu* building. Recent excavations in the Anakena area date an early type of *ahu* (with flat pavement in front of the platform instead of ramp) to B.P. 860±130 (calibrated A.D. 1051-1265). This *ahu* was situated on top of an earthen settlement layer that was dated with four samples to B.P. 1170±140 (calibrated A.D. 737-1014), B.P. 1290±100 (aquatic bird bone calibrated (to A.D. 980-1174), B.P. 1015±65 (calibrated A.D. 947-1108), B.P. 900±120 (calibrated A.D. 1036-1236). Early settlements have been found below other *ahu* sites on the island as well and may be a general trend (Martinsson-Wallin 1993).

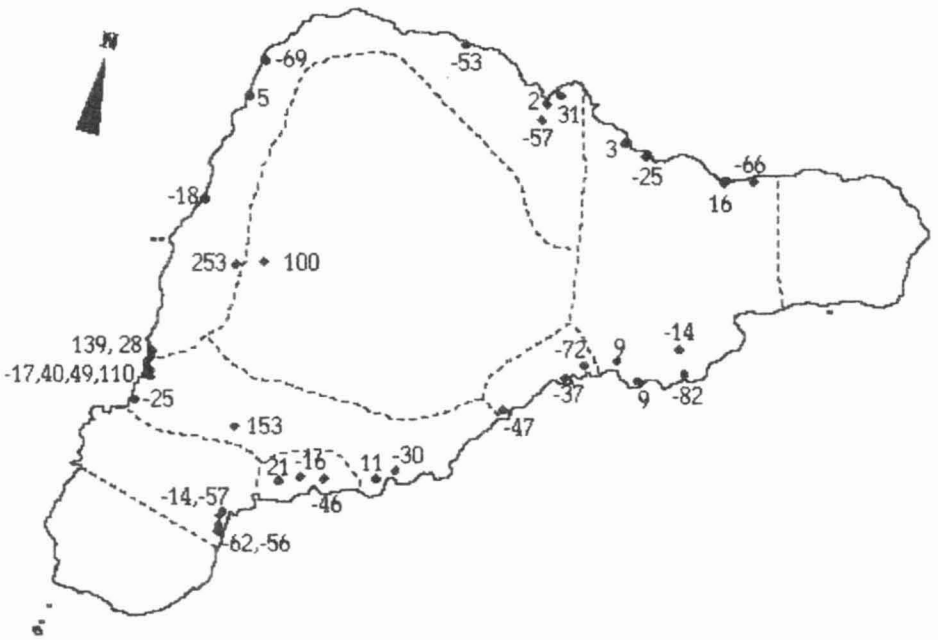


Figure 3. Showing the spatial distribution of the seriated ahu structures in Figure 1. The serration is based on the first ranked axis of the correspondence analysis. Negative values are considered to be early and positive values are late.

The spatial distribution of *ahu* shows a pattern where the majority of the structures are situated by the coast, but very few are found on the extreme comers of Poike and Orongo. Large and well dressed structures that may be elite centers and/or early structures, are evenly distributed and no clear agglomerations are shown. There is however a tendency of a larger representation of early structures on the south coast (Figure. 3). In the spatial distribution of *ahu* structures and their construction elements it is difficult to get indications of other earlier types of land divisions than recorded in ethnographic sources. The equal distribution in the different districts may indicate an even distribution of power. The south coast seems to have been an extensively used part of the island and there is a tendency that late structures have a larger representation there as well. The occurrence of many non-worked *ahu* with only one statue and many semi-pyramidal *ahu* may indicate a trend towards a non-stratification. Construction elements such as the statue head-gear *pukao*, red coping stones, and crematory, are more frequent on the south coast. Other patterns concerning different construction elements are difficult to distinguish but there is a trend of high walls of horizontal stones in the Tupahotu district.

If involving the natural resources on the island in this analysis, it is indicated that the south coast is suitable for farming and the north coast may have been more associated with fishing. The localization of larger villages has probably been dependent on accessibility to good water resources and the accessibility to quarries may have been used as means for exhibiting power. The spatial distribution of the *ahu* close to the sea and the elite residence centers close by *ahu* structures may indicate that accesses to the sea and its resources were important and controlled by the chiefs in the society. The spatial distribution of *ahu* show that it seems not to be any great spatial variations of early and late structures. Early and late, large and small, well dressed and unworked monuments are found in the same areas. There seems to be a continuity of construction of *ahu* in the same areas (Figure 3). This stationary change is also indicated by the alteration and re-building of *ahu* over time.

Interpretation

A variation found among the image *ahu* was whether they had worked or non-worked stones in the rear wall of the central platform. This variation may depend on temporal as well as spatial change. It was for example indicated that structures with well dressed walls are earlier than structures with non-worked walls. But time and space don't fully explain the variations. One has to go further, and ask for the meanings behind the patterns observed in the analyses.

One characteristic for *ahu* on Easter Island is the huge worked blocks of stone in the rear wall and the front wall. In addition, there are the well dressed statues, the large stone fish hooks, different types of rock carvings, and the *hare paenga* stones, which are examples of a skilled stone working technique. In relation to other islands in Polynesia, the working of stone has been extraordinary on Easter Island,

especially as it pertains to the ceremonial structures. It is suggested that the people on Easter Island consciously and unconsciously adapted the environment according to their needs, and through their actions they also changed their own conditions. This view presupposes that the meanings of material culture and the society as a unit, of which the ceremonial structures are a part, is based on the ideology that goes beyond the material culture and the society. Due to this reasoning, questions regarding the significance of worked and unworked stones are considered interesting. It is suggested that worked and specially selected stones on Easter Island and in the rest of Polynesia may be associated with power and to the divine, and these stones served as mediums between gods and humans.

Stratigraphical evidence from archaeological excavations and dating performed on Easter Island may be interpreted that the origin of the initial population, and the origin of the physical appearance of the typical *ahu* may not have coincided. However, it is quite likely that certain ideas concerning ceremonial structures were brought to the island by the initial settlers, but the appearance of the typical *ahu* seems to have come fully developed to the island. Studies of origin and cultural context of the Easter Island *ahu* have indicated the possibility of contacts between Easter Island and South America. This theory is supported by certain similarities in the material culture and in the occurrence of the South American sweet potato (*cumara*) on Easter Island. Recent computer simulations concerning Polynesian navigation and possible migration routes performed by G. Irwin indicated that prehistoric contacts between Easter Island and South America most likely could have occurred (Irwin 1992:164). Furthermore, studies of ancient Peru indicate that the prehistoric people of Peru, even prior to the Inca period, saw a special relationship between stones and humans, and stones and gods or spirits. Natural, but also worked stones, were seen as mediums between gods and humans in prehistoric Peru.

Contacts between Easter Island and South America are suggested as likely to have occurred in prehistoric times, and the techniques with well dressed stones in religious monuments may have been transmitted from South America to Easter Island. Ceremonial structures made with well dressed stones have a long tradition in the Peruvian highland as well as by the coast (Pineda 1988). The central issue here is that it is easier and more attractive to adopt external new material culture traits, if their meaning agrees with local conventions, and fit into the power structure and the realm of ideas in both of the cultures. The people may have been more eager to accept the material culture based on this concept, rather than a material culture based on non-shared concepts. The material culture may however be shaped somewhat differently in the two cultures depending on other internal conditions and traditions. How and when this contact may have occurred is not fully asserted. There are however indications of possible naval journeys performed by Easter Islanders to the South American continent and/or visits from South America to Easter Island (or East Polynesia), sometime between A.D. 800-1000 (Martinsson-Wallin 1993).

The strong ties between the ceremonial structures and the land on which they are situated have been indicated. *Mana* (power), was expressed through the stone structures and by the importance placed on the umbilical cord. The umbilical cord symbolized contact with the ancestors. The chief was named *iho* (umbilicus cord/pit/core), and he was considered to be the most sacred medium in relation to the ancestors. The ceremonial structures were thought of as the umbilical cord of the land, as was evident by the fact that the chiefs umbilical cord was placed there. It thereby became a relationship characterized by dependence and a complex network concerning ancestors/chief - land/ceremonial structure, which could be interrelated in various ways. Stones for ceremonial usage, often worked, and chiefs served as visible mediums in this network. *Ahu* formed a link between the gods and the people, and were surrounded by *mana* and sacredness and were also important as power symbols.

It is suggested that structural change may be possible within the framework of a culture, but also that the structure underlying the culture is a condition, an infrastructure, for change. The visible result of these changes may then be seen in the material culture. If the constructions are considered to have close ties to both the ancestors and the living chiefs, it may be possible to experience both continuity and contradiction. A continuity generation after generation, but also contradiction between the living and the dead. There are also contradictions between the living chiefs of different lineage groups, and within the family concerning the senior and the junior branch. All of these may be sources capable of generating change. A new chief distinguishes himself from the old dead chief by making the change visible in the material culture, in this case the *ahu*. In this way the stability is upheld in relation to the chief and the people, where the chief constitutes a link to the ancestors. The chiefs' relation to the ancestors must be stabilized, but different chiefs and junior and senior branches want to distinguish themselves through competitions with one another. This is a power struggle, which also may lead to changes. Examples of new situations that must be conceptualized are for example deaths and births. They constitute internal events within a society that may lead to change. These events do not need to generate large changes in the system but they may become incorporated into the ideology and the common conventions with the result that the *ahu* must change in order to legitimize the power since the structure in itself constitutes a kind of power symbol. The change is made visible when new construction details are added or it is re-built. New situations also occur when a contact is established between two different cultures. This event may also lead to change. Concerning both internal changes and change due to external influences the new situations need to be conceptualized through the prevailing conventions, and the changes may take the shape of an open conflict, but the situations may also be solved in other ways. This agrees with my interpretation concerning concepts about worked stones and *ahu* structures.

The material culture of Easter Island showed drastic changes in the late prehistoric phase, which was due to internal conflicts. It is suggested that the society moved in a non-differentiated direction at the end of the prehistoric phase. The ceremonial structures may be seen as symbols of

power, and one way of maintaining the power was through the use of certain tabu regulations. If a society moves towards non-differentiation there may be difficulties in maintaining the tabu regulations and then it will be difficult to exhibit the power through the monuments. It is further suggested that a non-differentiation may be a result of the fact that all people are able to assert that they originated from the same ancestor, and by using certain skills, for example, skills of an erotic nature or skill in war. Certain individuals thereby tried to associate themselves with a chief's family. The explanation as to why there was a drastic change on the island does not have to be dependent on changes in the environment or onflicts concerning access to water. Instead the leading segment of society could not maintain the power through their structures and their tabu regulations.

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